AMENDMENTS TO THE CLAIMS

1-2. (Canceled)

3. (Previously Presented) A receiver that uses multiple antennas to receive signals arriving over multiple paths, the receiver comprising:

a receive weight generating circuit operable to generate receive weights for individual ones of the antennas based on signals received from the antennas;

a summing circuit operable to calculate sums of results obtained by multiplying the signals received from the antennas and the receive weights of the individual antennas generated by the receive weight generating circuit; and

a path detection circuit operable to detect the paths of the received signals based on the sums calculated by the summing circuit;

wherein the receive weight generating circuit is operable to generate receive weights for each of the multiple paths,

wherein the summing circuit is operable to calculate a sum for each of the multiple receive weights,

wherein the path detection circuit is operable to detect the paths of the received signals based on the multiple sums calculated by the summing circuit,

wherein the summing circuit is operable to calculate two or more members among a sum of a leading wave path, a sum of a highest level path, a sum of a lowest level path, and a sum calculated with an average of the receive weights of all paths, and

wherein the path detection circuit is operable to detect the paths of the received signals for every sum produced by the summing circuit, is operable to select one of the sums produced by the summing circuit based on a comparison of the detected number of paths and the detected path levels with prescribed conditions relating thereto, and is operable to detect the received signal paths based on the selected sum.

4-5. (Canceled)

6. (Previously Presented) A receiver according to claim 3, wherein the summing circuit comprises:

at least one multiplier operable to time-division multiply the signals received from the antennas and the receive weights of the individual antennas generated by the receive weight generating circuit; and

a synthesizer operable to sum the multiplication results for the individual antennas produced by the multiplier.

7-8. (Canceled)

9. (Previously Presented) A receiver according to claim 3, wherein the receiver is a CDMA receiver operable to receive CDMA spread spectrum signals over airwaves, and wherein

the receiver is operable to detect the spread spectrum signals contained in the received signals for every path based on the received signal path detection result.

10-11. (Canceled)

12. (Previously Presented) A receiver according to claim 6, wherein the receiver is a CDMA receiver operable to receive CDMA spread spectrum signals over airwaves, and wherein the receiver is operable to detect the spread spectrum signals contained in the received signals for every path based on the received signal path detection result.

13. (Canceled)

14. (Previously Presented) A CDMA base station that uses a receiver to receive spread spectrum signals from multiple mobile stations that transmit CDMA spread spectrum signals over airwaves, detect the received signal paths for every mobile station and detect the spread spectrum signals contained in the received signals for every mobile station and every path based on the detection result, the receiver comprising:

N number of antennas constituting an adaptive array antenna, N being greater than 1;

N number of receiver units each associated with one of the antennas;

N number of user separators each associated with one of the antennas;

a user-segregated AAA signal processor and discriminator common to N number of receive paths constituted by the N number of antennas, the N number of receiver units and the N number of user separators, and a path detection circuit composed of N number of complex multipliers, a synthesizer, a spreading code generator, a correlator, a delay profile analyzer and a path detector;

wherein:

each of the N number of antennas receives wireless signals,

each of the N number of receiver units converts the input signals from the associated antenna from carrier frequency band signals to baseband signals and outputs the converted signals to the associated user separator,

each user separator separates the signals from the associated receiver unit into signals of the individual users and individual paths and outputs the separated signals to the user-segregated AAA signal processor and discriminator,

the user-segregated AAA signal processor and discriminator multiplies the user separated signals received from the user separators and individual user receive weights and acquires a synthesized result of the multiplication results as an adaptive array antenna receive result,

the user-segregated AAA signal processor and discriminator further outputs to the respective complex multipliers the obtained receive weights of the individual antennas obtained with respect to the user signals whose delay profiles are to be next analyzed by the path detection circuit,

the complex multipliers of the path detection circuit multiply the signals received from the associated receiver units and the receive weights of the associated antennas received from the user-segregated AAA signal processor and discriminator and output the multiplication results to the synthesizer,

the synthesizer synthesizes the N number of multiplication results received from the N number of complex multipliers and outputs the synthesis result to the correlator,

the spreading code generator generates user-specific spreading codes defined for the respective users and outputs the generated spreading code to the correlator,

the correlator correlates the signal received from the synthesizer with the spreading code received from the spreading code generator and outputs the correlation result to the delay profile analyzer,

the delay profile analyzer acquires a time-averaged delay profile by averaging the correlation result received from the correlator over time and outputs the averaged delay profile to the path detector, and

the path detector defines averaged data portions of the averaged delay profile received from the delay profile analyzer that exceed a prescribed threshold as autocorrelation peaks and averaged data portions thereof that do not exceed the prescribed threshold as noise portions, thereby distinguishing between paths and noise to enable detection of path arrival times.

15. (Previously Presented) A CDMA base station according to claim 14, wherein application of receive weights to the path detection circuit is changed among a method of

applying a receive weight obtained with respect to a path that leads in the delay profile, applying a receive weight obtained with respect to a path whose autocorrelation peak has a highest level in the delay profile, applying a receive weight obtained with respect to a path whose autocorrelation peak has a lowest level in the delay profile, and applying an average value of the receive weights obtained for all paths.

16. (Previously Presented) A CDMA base station according to claim 14, further comprising a receive weight multiplication and synthesis circuit section equipped with a first multiplexer, a second multiplexer, a complex multiplier, a synthesizer, a delay element and a switch,

wherein the first multiplexer converts N number of parallel signals received from the N number of antennas to N-fold faster serial signals and outputs the serial signals to the complex multiplier,

wherein the second multiplexer receives receive weights corresponding to the individual antennas, converts them to N-fold faster serial signals and outputs the serial signals to the complex multiplier,

wherein the complex multiplier outputs the result of multiplying the signals received from the first multiplexer and the signals received from the second multiplexer to the synthesizer,

wherein the synthesizer outputs the result of synthesizing the multiplication result received from the complex multiplier and the output of the delay element, and

wherein the switch closes once for each period of the N number of antennas, opens within the same period to return the output of the synthesizer to the synthesizer via the delay element when the switch is open, and closes to make determinate and output the data of N number of cumulative syntheses.

17. (Previously Presented) A CDMA base station according to claim 15, further comprising a receive weight multiplication and synthesis circuit section equipped with a first multiplexer, a second multiplexer, a complex multiplier, a synthesizer, a delay element and a switch,

wherein the first multiplexer converts N number of parallel signals received from the N number of antennas to N-fold faster serial signals and outputs the serial signals to the complex multiplier,

wherein the second multiplexer receives receive weights corresponding to the individual antennas, converts them to N-fold faster serial signals and outputs the serial signals to the complex multiplier,

wherein the complex multiplier outputs the result of multiplying the signals received from the first multiplexer and the signals received from the second multiplexer to the synthesizer,

wherein the synthesizer outputs the result of synthesizing the multiplication result received from the complex multiplier and the output of the delay element, and

wherein the switch closes once for each period of the N number of antennas, opens within the same period to return the output of the synthesizer to the synthesizer via the delay element

when the switch is open, and closes to make determinate and output the data of N number of cumulative syntheses.

18-19. (Canceled)